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FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS

U. S. DEPT. OF AGRICULTURE
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MAY 12 1966

CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
MONTANA

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE.
and
MONTANA AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with Federal, State, and private organizations listed on the inside back cover of this report.

AS OF
APR. 1, 1966

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Listed below are water supply outlook reports based on Federal-State-Private Cooperative snow surveys. Those published by the Soil Conservation Service may be obtained from Soil Conservation Service, Room 507, Federal Building, 701 N. W. Glisan, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
BASIC DATA SUMMARY	OCTOBER 1	PORTLAND, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN.15 - APR.1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
GOLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RESOURCES SERVICE, DEPT. OF LANDS, FOREST AND WATER RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

WATER SUPPLY OUTLOOK
FEDERAL-STATE-PRIVATE COOPERATIVE SNOW SURVEYS
for
MONTANA

Report Prepared

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And

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State Conservationist
Soil Conservation Service
Bozeman, Montana

J. A. Asleson, Director
Montana Agricultural
Experiment Station
Bozeman, Montana



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MONTANA
WATER SUPPLY OUTLOOK
as of
April 1, 1966

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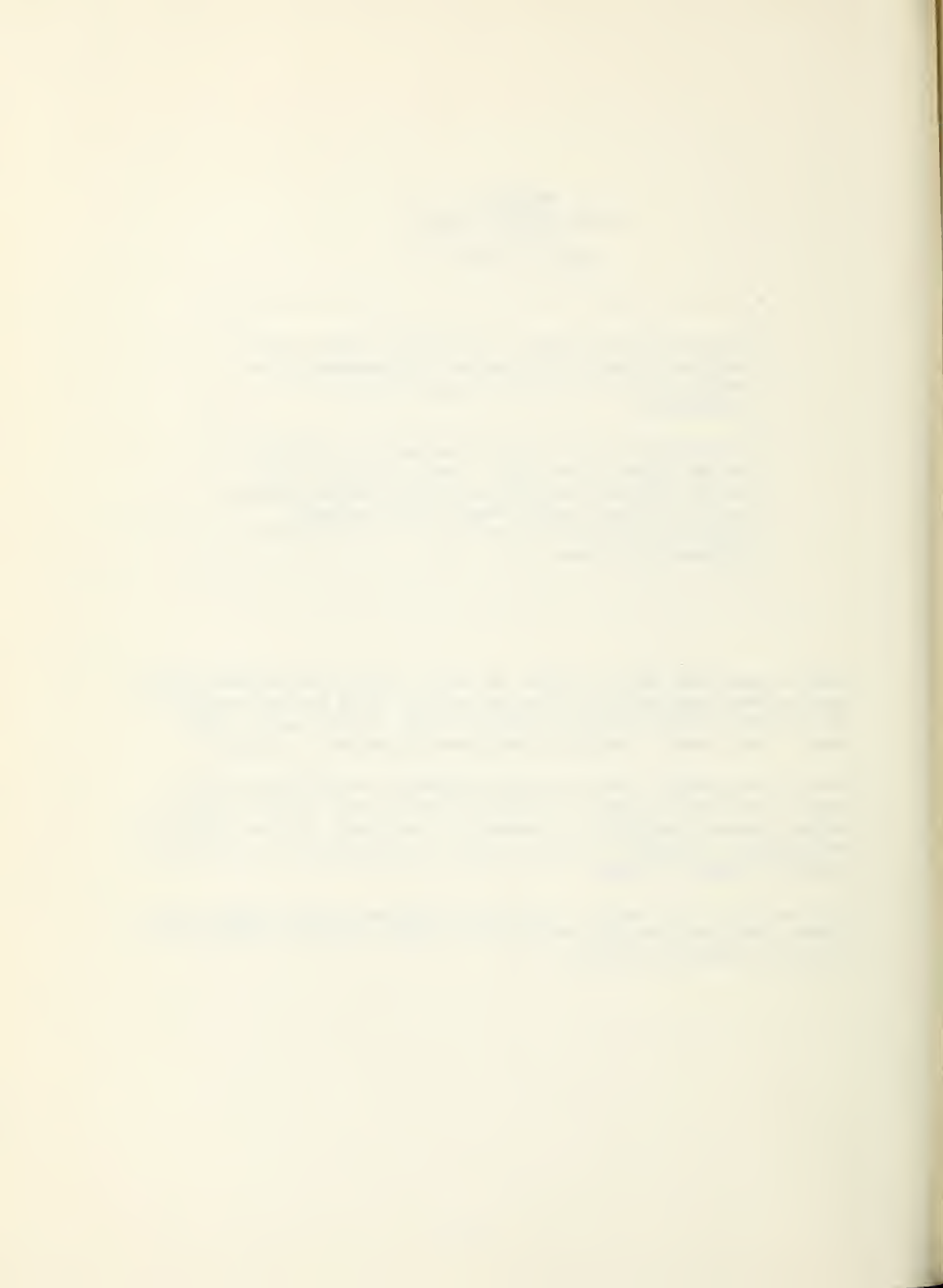
* * * * *
*
* Late season shortages of irrigation water can be
* expected on most tributaries. The mountain snow
* pack is 65 to 75 percent average over most of
* the state.
*
* Low elevation snow is gone and melt is occurring
* at the higher elevations. Early runoff is ex-
* pected and will be 20 to 30 percent below average
* on all streams except those in the northwest
* portion and those originating in the Yellowstone
* National Park area.
*
* * * * *

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Snow surveys made near the first of April indicate the mountain snow pack is about one-half of a year ago and 65 to 75 percent average in all Missouri River drainages except the Sun, Marias and St. Mary areas. This area to the north has about 85 percent snow pack.

West of the Divide, low snow pack encompasses the Bitterroot and Upper Clark Fork drainages. In this area the snow pack is about 70 percent average and 60 to 70 percent of last year. To the north, in the Flathead, Kootenai and Lower Clark Fork drainages, snow cover is about 90 percent average.

Melt began the last week in March and continues at the higher elevations. The low elevation snow pack is almost depleted, with most of the melt saturating the soil.



Streamflow for the April through September period is forecast to be below average on all streams in the state except the Kootenai. Low flows near those of 1961 are expected in the Bitterroot and Upper Clark Fork drainages. Flathead drainages should produce runoff in the range of 85 to 95 percent average, with higher percentages from the northern tributaries. Inflow along the Clark Fork below the Flathead is forecast about 80 percent average. Late season irrigation water shortages can be expected in the Bitterroot and Upper Clark Fork drainages.

East of the Divide, late season irrigation shortages will occur on almost all of the smaller streams not having reservoir storage. Shortages are also expected on some of the major tributaries to the upper Missouri.

Forecasts range from 90 percent in the Upper Madison and Red Rock drainages to 75 percent average in the lower reaches of the Jefferson, Madison and Gallatin drainages. The low runoff area also encompasses streams tributary to the Missouri originating along the Continental Divide up to the Sun River.

The Sun, Marias, St. Mary and streams originating in the Belt, Castle and Snowy Mountains are expected to produce flows 80 to 90 percent average.

In the Yellowstone drainage about 75 percent average runoff is forecast for streams draining the high Beartooth-Absaroka area.

Headwaters of the Yellowstone, Shields and Clarks Fork should produce about 85 percent average runoff.

Runoff at Billings will be about 75 percent average.

The Big Horn drainage has a severe shortage of snow and forecasts are for runoff near one-half average. Runoff in the Tongue and Powder Rivers is expected to be about the lowest on record. Both rivers probably will be dry or nearly dry after the main snow melt period.

Reservoir storage is generally above average and runoff in many areas should be adequate to obtain necessary storage. Multipurpose and power generated reservoirs should fill with spring runoff.

Soils are saturated at mid and low elevations from recent snow melt. Higher elevation soils show some increase in moisture content while valley soils are drying.

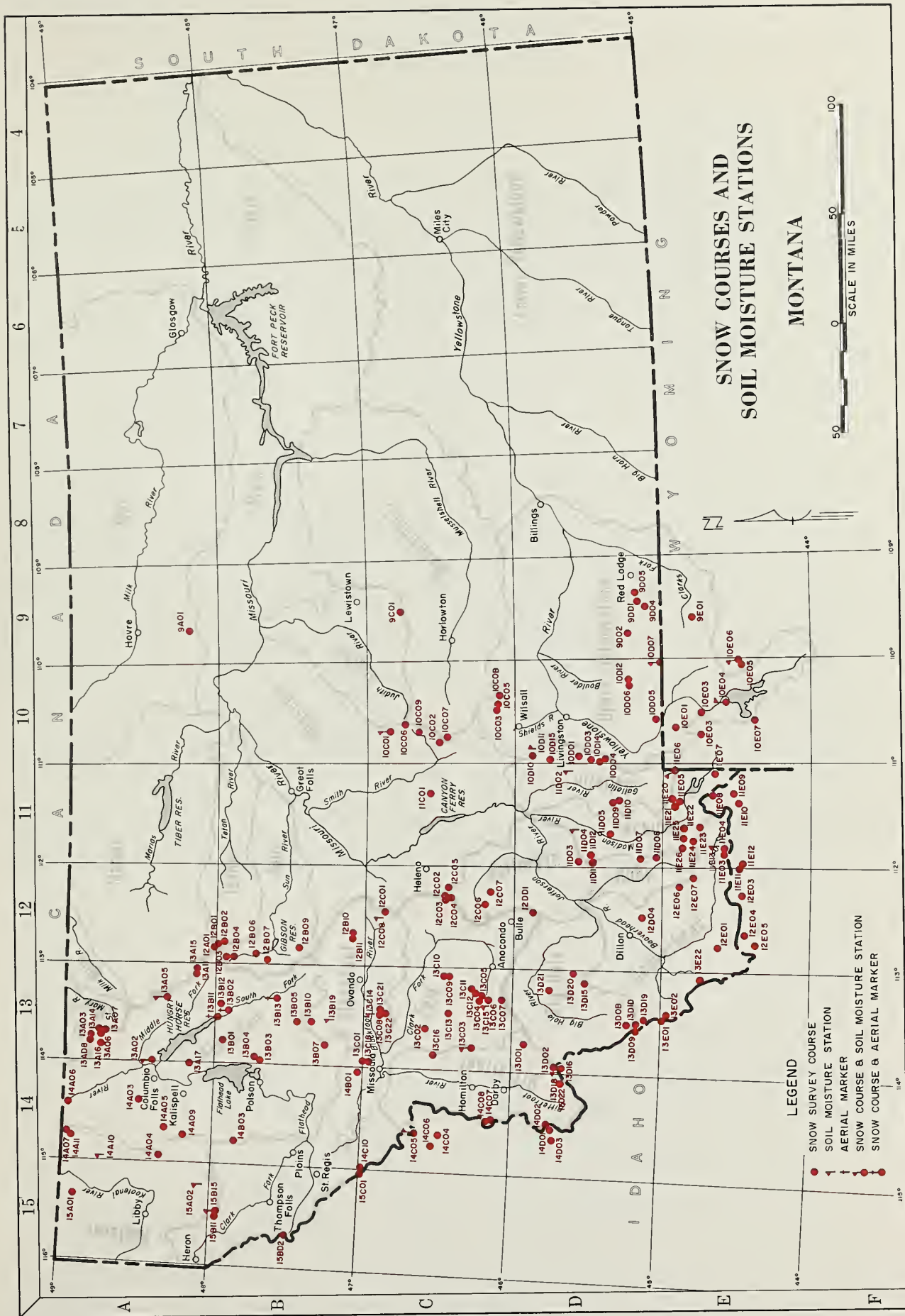
THE
JOURNAL
OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE
OF GREAT BRITAIN AND IRELAND
VOLUME 34. PART 1. 1904.

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OF GREAT BRITAIN AND IRELAND
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INDEX to MONTANA SNOW COURSES and SOIL MOISTURE STATIONS

SNOW COURSES

COLUMBIA RIVER BASIN

[illegible]

Iceberg Lake No. 3
Josephine Lower No. 9
Mount Allen No. 7
Piegan Pass No. 6
Ptarmigan No. B

MISSOURI RIVER BASIN

8 SEAVERHEAD RIVER

SNOW COURSES

COLUMBIA RIVER BASIN

[illegible]

2 5 2 2 7
5 5 5 5 5
3 3 3 3 3

MISSOURI RIVER BASIN

8	3	4, 5	1
3	5	3, 4	1
5	5	3, 4, 5	1
5	5	3, 4, 5	3
8	8	3, 4, 5	1
8	8	3, 4, 5	10
8	8	3, 4, 5	10
8	8	3, 4	1
8	8	3, 4, 5	1
8	8	3, 4, 5	1

SNOW COURSES

COLUMBIA RIVER BASIN

RUBY RIVER
Glover Meadow
Dulide
North

BIG HOLE RIVER
Abundance Lake
Gardner Lake
Poshorn
Jahnie Creek

JEFFERSON RIVER
Barry Meadow
Palm Springs
Pinestone Pass

MADISON RIVER
Gall Road
Four Mile
Poudre Lake
Fremont Mountain
Helgen Dam
Jack Creek
Lake Creek
Meridian Creek
North Meadow
Pinecanyon Park
Poudre Creek
Sage Creek
West Yellowstone

GALLATIN RIVER
Arch Falls
Bear Falls
Bridger Bowl
Devils Slide
Gardiner
Latta Park
New World
Twenty-one Mile

MISSOURI RIVER MOUNTAINS
Boulder Mountain
Chassan Reservoir
Elk Park
Greenhorn
Moose Hill
Hokey Boy
Ten Mile
Ten Mile Lower
Ten Mile Middle
Ten Mile Upper

SUN-TETON-MANITOWAT
Badger Pass
Cabin Creek
Pawnee Creek
Geat Mountain

Waldron Creek
West Fork
Wrong Creek
Wrong Ridge

UPPER YELLOWSTONE RIVER

Bald Ridge
Camp Senia
Crowley Mountain
Grizzly Peak
Independence
Monument Peak
Northeast Entrance
Porcupine R. S.
Sagejawn
South Park Shields
Tishlerine Creek
West Rosebud

MISSOURI

[illegible]

	9M	25N	6	1948
	9M	25N	6	1948
	10W	25N	32	1949
	10W	25N	17	1949
	18E	12N	19	1971

UPPER YELLOWSTONE RIVER

[illegible]

MISSOURI

[illegible]

34,5	1
34,5	1
34,5	1
34,5	1
34	1

UPPER YELLOWSTONE RIVER

3,4,5
3,4,5,5,6
1 1 2 1 1 1 6 1 1 1 1 4

MISSOURI

KOOTENAI RIVER		MISSOURI RIVER		MISSOURI RIVER MAIN STEM		YELLOWSTONE RIVER	
Berco Trail	150.0M	3800	5	100.5M	7250	25	
Marjory Lake R. S.	144.0M	3000	1	110.0M	4856	18	
Raven R. S.	154.02M	3040	2	112.66M	7150	1	
FLATHEAD RIVER							
Desert Mountain	134.02M	5600	22	100.0M	7420	34	
Merline Pass	134.0M	5240	34	120.0M	6550	46	
CLARK FORK RIVER							
Georgetown Lake	130.12M	6450	6				
Laubrecht Forest	130.1M	4100	11				
Sealey Lake	130.19M	4040	21				
Swadlow Summit	130.03M	7460	50				
BITTERROOT RIVER							
Oldmans Pass	130.18M	7100	4				
Edo Pass	140.0M	5240	11				
BEAVERHEAD RIVER							
Lakeview	112.13M	6700	23				
MADISON RIVER							
Red Bluff	110.04M	4800	7				
GALLATIN RIVER							
Bridge Bow	100.5M	7250	25				
College Site	110.02M	4856	18				
Twenty-one Mile	112.66M	7150	1				
MISSOURI RIVER MAIN STEM							
Kings Hill	100.0M	7420	34				
Shampo Pass	120.0M	6550	46				
YELLOWSTONE RIVER							
Battle Ridge	100.1M	6600	32				
Northwest Entrance	100.07M	7350	33				

1/ Materials 1,2,3,4,5,5h,6 refer to January 1, Feb. and June 1.

123220

2. numerals refer to Agency that secures the money

1. U. S. Soil Conservation Service	6. D. S.
2. U. S. Forest Service	7. PSU
3. U. S. Geological Survey	8. U. S.
4. Montana Power Company	9. Don
5. D. S. Indian Service	10. U. S.

M - Soil Moisture

UPPER YELLOWSTONE RIVER

MISSOURI

Year	Month	Frequency
23M	1964	Monthly
25M	1964	Monthly
29M	1964	Monthly
19M	1946	Monthly
17M	1940	Monthly
13M	1962	Monthly
15M	1961	Monthly
15M	1963	Monthly
17M	1964	Monthly
18M	1962	Monthly
24M	1963	Monthly
2M	1962	Monthly
18	1961	Monthly
6E	1965	Monthly
5E	1946	Monthly
5E	1963	Monthly
8E	1963	Monthly
7M	1963	Monthly
7E	1960	Monthly
14E	1962	Monthly

Key as follows:

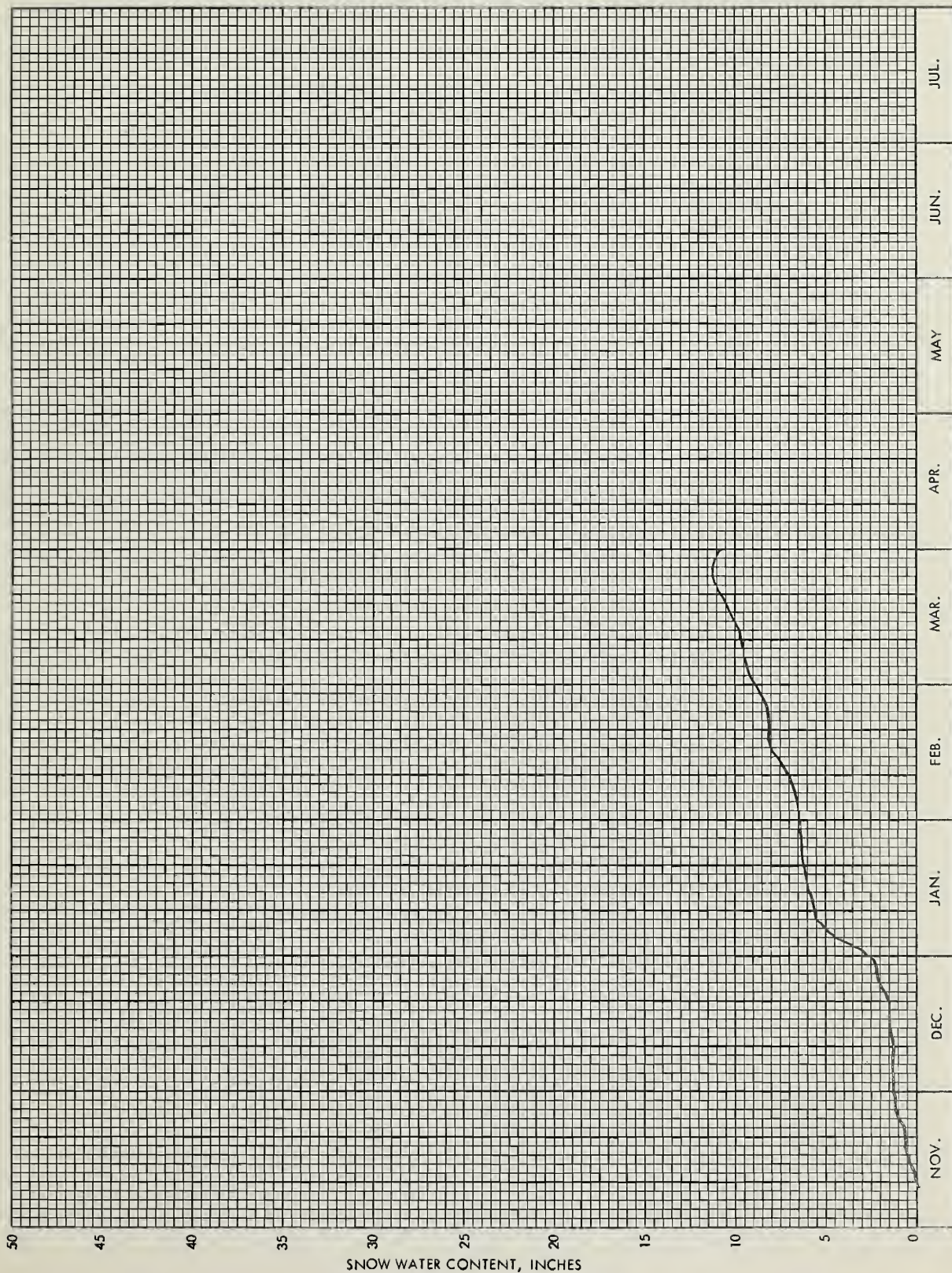
National Park Service
Agricultural Experiment Station
U. S. School of Forestry
U. S. Water & Power Bureau
Bureau of Sport Fisheries & Wildlife

UPPER YELLOWSTONE RIVER

BLACK PINE
SNOW PILLOW DATA

AS OF APRIL 1, 1966

Sec. 26 T. 8N R. 15W No. 13C13 Drainage: Columbia
Lat. 46-25 Long. 113-26 Elev. 7100 Clark Fork

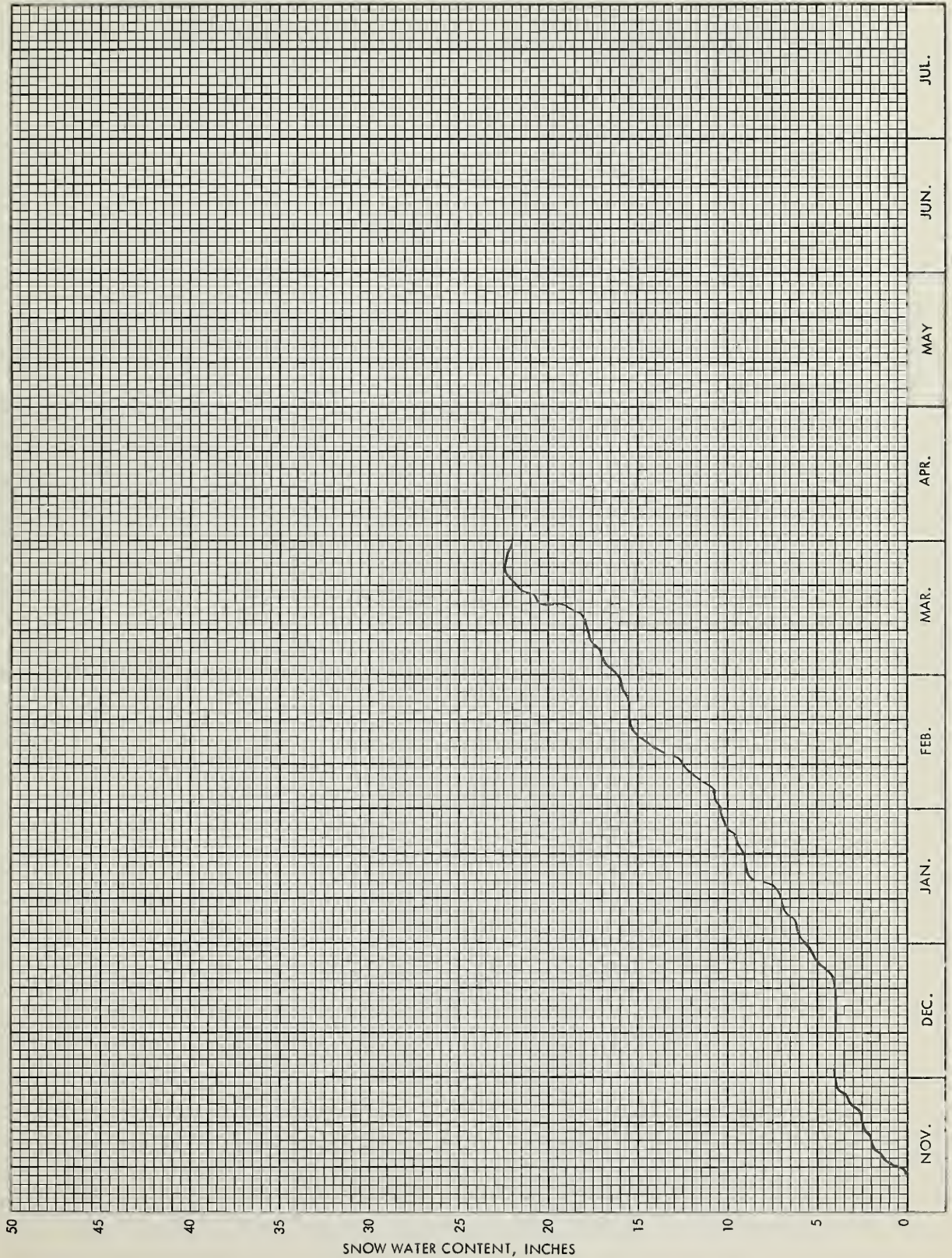


SNOW WATER CONTENT, INCHES

BRIDGER BCWL
SNOW PILLOW DATA

AS OF APRIL 1, 1966

Sec. 25 T. 1N R. 6E No. 10D15 Drainage: Missouri
Lat. 45-48 Long. 110-55 Elev. 7250 Gallatin

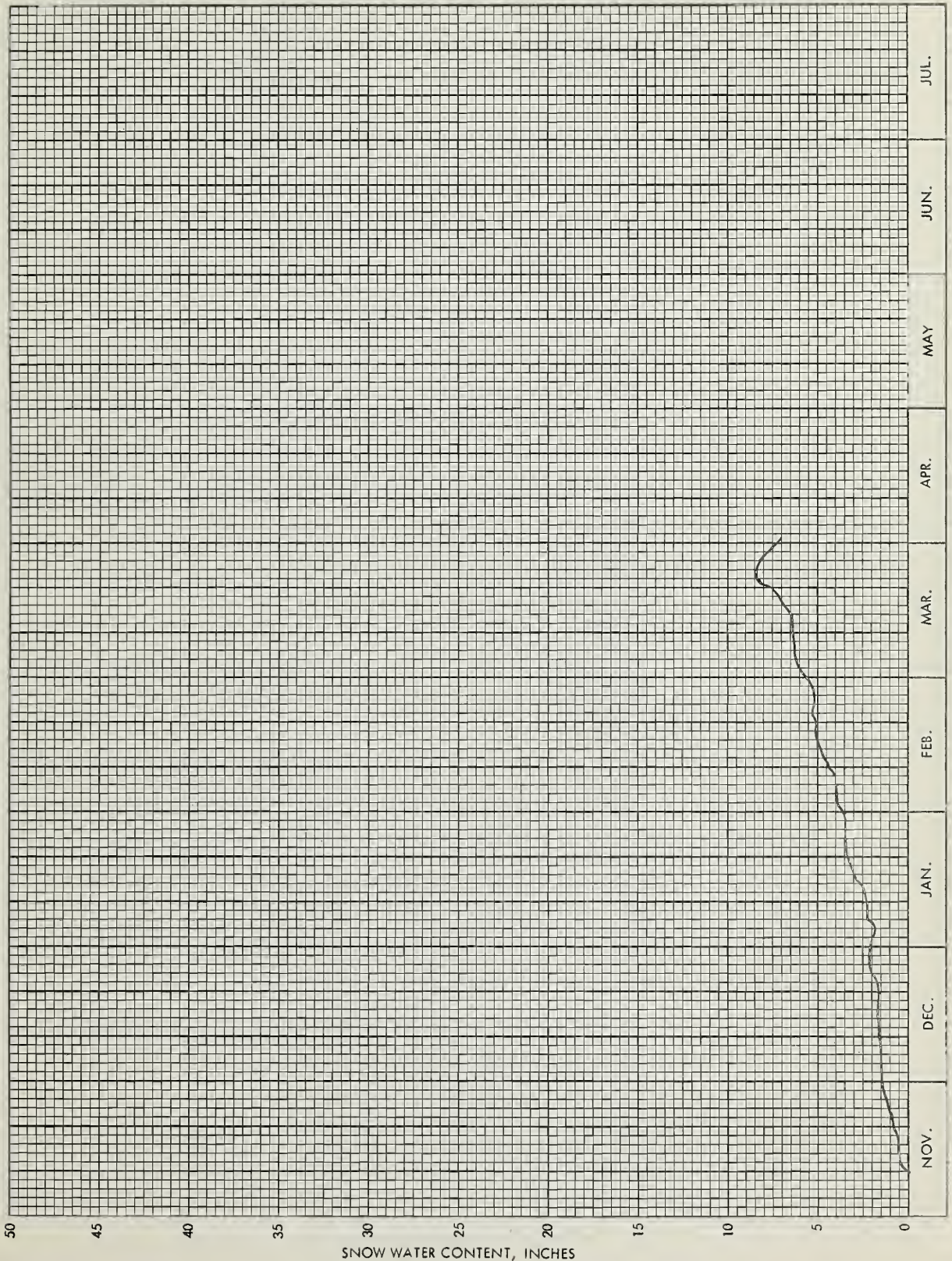


SNOW WATER CONTENT, INCHES

LICK CREEK
SNOW PILLOW DATA

AS OF APRIL 1, 1966

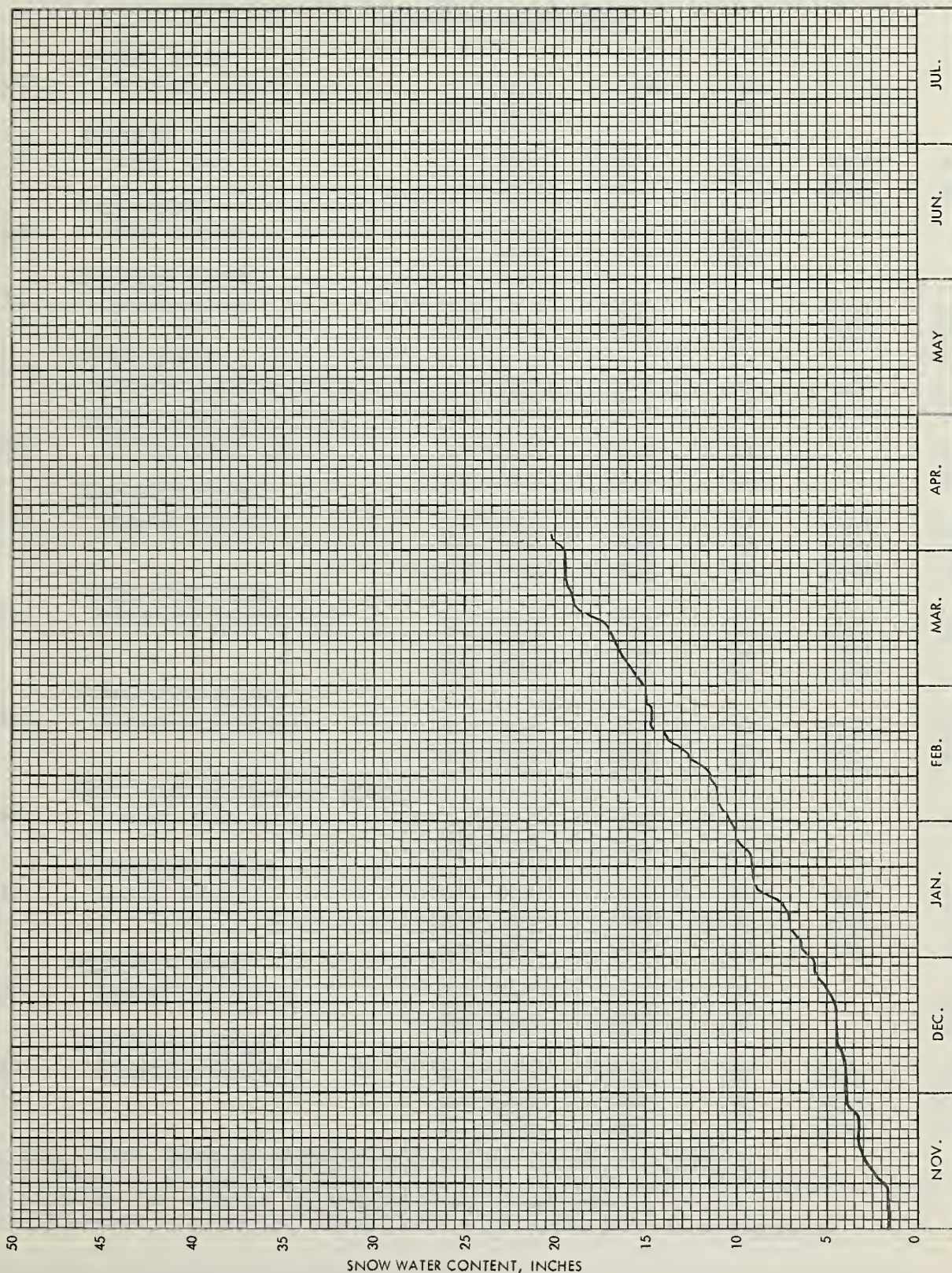
Sec. 10 T. 6E R. 6E No. 10D13 Drainage: Missouri
Lat. 45-30 Long. 110-58 Elev. 6860 Gallatin



SHOWER FALLS
SNOW PILLOW DATA

AS OF APRIL 1, 1966

Sec. 14 T. 5S R. 6E No. 10D16 Drainage: Missouri
Lat. 45-24 Long. 110-57 Elev. 8100 Gallatin



WATER SUPPLY FORECASTS

AS OF APRIL 1, 1966

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST	FORECAST	PERCENT	MEASURED FLOW	
		PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE

COLUMBIA RIVER BASIN

3020	FISHER RIVER Jennings (near)	Apr-Sept	305	96		318
		Apr-July	290	96		302
3030	KOOTENAI RIVER Libby (at)	Apr-Sept	8300	103	8040	8096
		Apr-July	7240	103	6894	7010
3045	YAAK RIVER Troy (near)	Apr-Sept	555	100		555
		Apr-July	531	100		532
3050	KOOTENAI RIVER Leonia (at)	Apr-Sept	9500	102	9131	9327
		Apr-July	8350	102	7937	8179
3301	FLINT CREEK Boulder Creek (below)(3)	Apr-Sept	48.0	66	110	73.0
		Apr-July	38.9	66	87.1	59.1
3320	MIDDLE FORK ROCK CREEK Philipsburg (near)	Apr-Sept	53.0	68		77.8
		Apr-July	48.0	68		70.5
3400	BLACKFOOT RIVER Bonner (near)	Apr-Sept	830	80	1368	1036
		Apr-July	750	80	1233	938
		Apr-June	648	80	1068	812
3404	CLARK FORK RIVER Milltown (above)(4)	Apr-Sept	510	64	1149	802
		Apr-July	444	64	977	705
		Apr-June	385	64	830	605
3405	CLARK FORK RIVER Missoula (above)	Apr-Sept	1340	73	2517	1838
		Apr-July	1194	73	2210	1642
		Apr-June	1033	73	1898	1417
3425	WEST FORK BITTERROOT RIVER Conner (near)(5)	Apr-Sept	132	74		179
		Apr-July	124	74		168
3440	BITTERROOT RIVER Darby (near)	Apr-Sept	425	73	740	582
		Apr-July	396	73	676	542
		Apr-June	348	73	593	478
3475	BLODGETT CREEK Corvallis (near)	Apr-Sept	35.5	80		44.6
		Apr-July	33.9	80		42.6
3528	BITTERROOT RIVER Missoula (at)(6)	Apr-Sept	1120	72	1983	1553
		Apr-July	1040	72	1755	1446
		Apr-June	905	72	1505	1253

(3) Sum, Flint Creek at Maxville and Boulder Creek at Maxville.

(4) Difference in observed flow, Clark Fork above Missoula and Blackfoot near Bonner.

(5) Adjusted for storage in Painted Rocks Reservoir.

(6) Difference in observed flow, Clark Fork above and below Missoula.

* - 8 -
PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

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Department of Clinical Clinical Clinical Clinical Public Health	99	99	99	99	99
Department of Clinical Clinical Clinical Clinical Social Medicine	100	100	100	100	100

WATER SUPPLY FORECASTS

AS OF APRIL 1, 1966

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST	FORECAST	PERCENT	MEASURED FLOW	
		PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
3530	CLARK FORK RIVER Missoula (below)	Apr-Sept	2460	73	4500	3391
		Apr-July	2250	73	3965	3088
		Apr-June	1938	73	3403	2670
3545	CLARK FORK RIVER St. Regis (at)	Apr-Sept	3500	75	6007	4642
		Apr-July	3180	75	5329	4230
		Apr-June	2750	75	4611	3671
3555	NORTH FORK FLATHEAD RIVER Columbia Falls (near)	Apr-Sept	1920	95		2027
		Apr-July	1750	95		1844
		Apr-June	1490	95		1565
3585	MIDDLE FORK FLATHEAD RIVER West Glacier (near)	Apr-Sept	1724	89	2208	1923
		Apr-July	1590	89	2002	1785
		Apr-June	1350	89	1696	1521
3625	SOUTH FORK FLATHEAD RIVER Columbia Falls (near)(7)	Apr-Sept	2035	86	2817	2381
		Apr-July	1940	86	2577	2262
		Apr-June	1710	86	2256	1988
3630	FLATHEAD RIVER Columbia Falls (at)(7)	Apr-Sept	5830	90	7472	6497
		Apr-July	5400	90	6798	6028
		Apr-June	4650	90	5846	5185
3700	SWAN RIVER Big Fork (near)	Apr-Sept	600	86		694
		Apr-July	530	86		614
		Apr-June	432	86		503
3720	FLATHEAD RIVER Polson (near)(8)	Apr-Sept	6900	89	9216	7778
		Apr-July	6420	89	8308	7229
		Apr-June	5500	89	7096	6188
3890	CLARK FORK RIVER Plains (near)(8)	Apr-Sept	10750	84	15780	12793
		Apr-July	9850	84	14069	11736
		Apr-June	8450	84	12056	10077
3895	THOMPSON RIVER Thompson Falls (near)	Apr-Sept	250	83	312	302
		Apr-July	225	83	279	273
3907	PROSPECT CREEK Thompson Falls (at)	Apr-Sept	132	80	160	165
		Apr-July	124	80	150	155
3920	CLARK FORK RIVER Whitehorse Rapids (at)(9)	Apr-Sept	12130	84	17390	14398
		Apr-July	11060	84	15496	13187
		Apr-June	9500	84	13320	11318

(7) Adjusted for storage in Hungry Horse Reservoir.

(8) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.

(9) Adjusted for storage in Hungry Horse, Flathead Lake and Noxon Rapids Reservoirs.

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1970	99	99	99	99	99	99	99
1970	100	100	100	100	100	100	100

WATER SUPPLY FORECASTS

AS OF APRIL 1, 1966

		FORECAST		PERCENT	(1000 Acre Feet) MEASURED FLOW	
NO.	RIVER AND FORECAST POINT	PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
MISSOURI RIVER BASIN						
0110	RED ROCK RIVER Kennedy Ranch (at)	Apr-Sept Apr-July	64.0 59.0	89 89	96.6 84.4	71.7 66.2
0125	RED ROCK RIVER Monida (near)(11)	Apr-Sept Apr-July	70.0 65.8	89 89	136 125	78.4 73.7
0255	BIG HOLE RIVER Melrose (near)	Apr-Sept Apr-July	570 528	79 79	1166 1054	718 669
0330	BOULDER RIVER Boulder (near)	Apr-Sept Apr-July	58.0 55.5	76 76	139 128	76.3 73.0
0345	JEFFERSON RIVER Sappington (at)(12)	Apr-Sept Apr-July	745 665	76 76	1729 1489	974 875
0375	MADISON RIVER West Yellowstone (near)	Apr-Sept Apr-July	190 143	91 91	272 205	208 157
0385	MADISON RIVER Grayling (near)(13)	Apr-Sept Apr-July	380 299	91 91	577 456	420 330
0410	MADISON RIVER McAllister (near)(14)	Apr-Sept Apr-July	615 493	86 86	1010 813	718 576
0435	GALLATIN RIVER Gateway (near)	Apr-Sept Apr-July	358 305	80 80	649 553	447 381
0485	BRIDGER CREEK Bozeman (near)	Apr-Sept Apr-July	15.0 14.1	75 75	31.3 28.9	19.9 18.7
0500	HYALITE CREEK Bozeman (near)(15)	Apr-Sept Apr-July	28.5 25.6	83 83	53.2 45.7	35.6 30.8
0525	GALLATIN RIVER Logan (at)	Apr-Sept Apr-July	325 276	70 70	747 627	467 396

- (11) Adjusted for storage in Lima Reservoir.
 (12) Adjusted for storage in Clark Canyon Reservoir.
 (13) Adjusted for storage in Hebgen Lake.
 (14) Adjusted for storage in Hebgen and Ennis Lakes.
 (15) Adjusted for storage in Middle Creek Reservoir.

THE UNIVERSITY OF CHICAGO

OFFICE OF THE DEAN

For the purpose of this report, the following information was obtained from the records of the University of Chicago:

NAME	AGE	SEX	DATE OF BIRTH	DATE OF DEATH	CAUSE OF DEATH
ALLEN, JOHN	25	M	1890	1915	Heart Disease
BROWN, JAMES	30	M	1885	1915	Stroke
CHAMBERLAIN, EDWARD	28	M	1887	1915	Pneumonia
CLARK, ROBERT	35	M	1880	1915	Heart Disease
COOPER, WILLIAM	40	M	1875	1915	Stroke
DAVIS, HENRY	32	M	1883	1915	Pneumonia
EVANS, THOMAS	27	M	1888	1915	Heart Disease
FERGUSON, JAMES	38	M	1877	1915	Stroke
GILBERT, ROBERT	29	M	1886	1915	Pneumonia
GRANT, WILLIAM	33	M	1882	1915	Heart Disease
GREEN, JAMES	31	M	1884	1915	Stroke
HARRIS, EDWARD	26	M	1889	1915	Pneumonia
HUGHES, ROBERT	34	M	1879	1915	Heart Disease
JACKSON, WILLIAM	36	M	1876	1915	Stroke
KELLY, JAMES	28	M	1887	1915	Pneumonia
LEWIS, THOMAS	37	M	1878	1915	Heart Disease
LYNCH, ROBERT	39	M	1874	1915	Stroke
MAHONEY, WILLIAM	32	M	1883	1915	Pneumonia
MCCARTHY, JAMES	30	M	1885	1915	Heart Disease
MURPHY, EDWARD	27	M	1888	1915	Stroke
NICHOLS, ROBERT	35	M	1880	1915	Pneumonia
OLIVER, WILLIAM	33	M	1882	1915	Heart Disease
PETERSON, JAMES	31	M	1884	1915	Stroke
REID, EDWARD	26	M	1889	1915	Pneumonia
RICHARDS, ROBERT	34	M	1879	1915	Heart Disease
ROBERTS, WILLIAM	36	M	1876	1915	Stroke
SCOTT, JAMES	28	M	1887	1915	Pneumonia
SMITH, THOMAS	37	M	1878	1915	Heart Disease
SPENCER, ROBERT	39	M	1874	1915	Stroke
STEVENSON, WILLIAM	32	M	1883	1915	Pneumonia
SULLIVAN, JAMES	30	M	1885	1915	Heart Disease
TAYLOR, EDWARD	27	M	1888	1915	Stroke
TELFORD, ROBERT	35	M	1880	1915	Pneumonia
THOMAS, WILLIAM	33	M	1882	1915	Heart Disease
TOLSON, JAMES	31	M	1884	1915	Stroke
TURNER, EDWARD	26	M	1889	1915	Pneumonia
WATSON, ROBERT	34	M	1879	1915	Heart Disease
WEAVER, WILLIAM	36	M	1876	1915	Stroke
WELCH, JAMES	28	M	1887	1915	Pneumonia
WILLIAMS, THOMAS	37	M	1878	1915	Heart Disease
WILSON, ROBERT	39	M	1874	1915	Stroke
WOOD, WILLIAM	32	M	1883	1915	Pneumonia
WRIGHT, JAMES	30	M	1885	1915	Heart Disease
YOUNG, EDWARD	27	M	1888	1915	Stroke
ZIMMERMAN, ROBERT	35	M	1880	1915	Pneumonia

THE UNIVERSITY OF CHICAGO
OFFICE OF THE DEAN
CHICAGO, ILLINOIS

WATER SUPPLY FORECASTS

AS OF APRIL 1, 1966

				(1000 Acre Feet)		
NO.	RIVER AND FORECAST POINT	FORECAST	FORECAST	PERCENT	MEASURED FLOW	
		PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
	MISSOURI RIVER					
0545	Toston (at)(16)	Apr-Sept	1635	76	3413	2147
		Apr-July	1410	76	2892	1861
	PRICKLY PEAR CREEK					
0615	Clancy (near)	Apr-Sept	16.5	75		22.0
		Apr-July	14.4	75		19.2
	SHEEP CREEK					
0770	White Sul. Spgs. (near)	Apr-Sept	13.7	83	32.2	16.5
		Apr-July	11.8	83	27.6	14.2
	SUN RIVER					
0786	Gibson Dam (at)(17)	Apr-Sept	532	87	702	610
		Apr-July	487	87	632	559
	MISSOURI RIVER					
0908	Fort Benton (at)(18)	Apr-Sept	2500	75		3319
		Apr-July	2120	75		2825
	TWO MEDICINE CREEK					
0920	Browning (near)(19)	Apr-Sept	226	83		271
		Apr-July	216	83		260
	BADGER CREEK					
0925	Browning (near)	Apr-Sept	120	84		143
		Apr-July	103	84		124
	CUT BANK CREEK					
0990	Cut Bank (at)	Apr-Sept	106	75	148	142
		Apr-July	98	75	133	131
	MARIAS RIVER					
0995	Shelby (near)(20)	Apr-Sept	524	81	751	651
		Apr-July	498	81	706	617
	MISSOURI RIVER					
1095	Virgille (at)(21)	Apr-Sept	3070	74		4116
		Apr-July	2650	74		3557
	JUDITH RIVER					
1100	Utica (near)	Apr-Sept	28.0	84		33.5
		Apr-July	26.0	84		31.1
	MISSOURI RIVER					
1150	Zortman (near)(21)	Apr-Sept	3400	75		4508
		Apr-July	2910	75		3878
	NORTH FORK MUSSELSHELL R.					
1155	Delpine (near)	Apr-Sept	4.6	77	10.0	6.0
		Apr-July	3.8	76	8.3	5.0
	SOUTH FORK MUSSELSHELL R.					
1185	Martinsdale (above)	Apr-Sept	39.0	80	73.6	48.8
		Apr-July	37.2	80	64.6	46.6

- (16) Adjusted for storage in Hebgen and Ennis Lakes and Clark Canyon Reservoir.
 (17) Adjusted for storage in Gibson Reservoir and diversions.
 (18) Adjusted for storage in Canyon Ferry Reservoir.
 (19) Adjusted for storage in Two Medicine Res. & diversions into Two Medicine Canal.
 (20) Adjusted for storage in Two Medicine, Four Horns, Lake Frances & Swift Res.
 (21) Adjusted for storage in Canyon Ferry and Tiber Reservoirs.

WATER SUPPLY FORECASTS

AS OF APRIL 1, 1966

NO. 37. APRIL 1, 1968

					(1000 Acre Feet)	
NO.	RIVER AND FORECAST POINT	FORECAST PERIOD	FORECAST THIS YEAR	PERCENT AVERAGE	MEASURED FLOW	
					LAST YEAR*	AVERAGE
MISSOURI RIVER						
1320	Ft. Peck Dam (below)(22)	Apr-Sept	3160	72	7433	4422
		Apr-July	2800	72	6483	3894
MILK RIVER						
1350	Eastern Crossing (at)	Apr-Sept	216	86	332	250
MISSOURI RIVER						
1770	Wolf Point (near)(22)	Apr-Sept	3400	70	8333	4879
		Apr-July	3020	70	7356	4317
MISSOURI RIVER						
3300	Williston, N.D. (nr)(29)	Apr-Sept	7100	64		11059
		Apr-July	6300	64		9828

SASKATCHEWAN RIVER BASIN

ST. MARY RIVER						
0175	Babb (near)(30)	Apr-Sept	453	92		491
		Apr-July	392	92		

- (22) Adjusted for storage in Canyon Ferry, Tiber and Fort Peck Reservoirs.
 (29) Adjusted for storage in Canyon Ferry, Tiber, Fort Peck, Buffalo Bill, Boysen and Yellowtail Reservoirs.
 (30) Adjusted for storage in Lake Sherburne.

1900-1901

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1900-1901

1	2	3	4	5	6
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1	2	3	4	5	6
1	2	3	4	5	6

1900-1901

WATER SUPPLY FORECASTS

AS OF APRIL 1, 1966

(1000 Acre Feet)

NO.	RIVER AND FORECAST POINT	FORECAST	FORECAST	PERCENT	MEASURED FLOW	
		PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE

YELLOWSTONE RIVER BASIN

YELLOWSTONE RIVER						
1915	Corwin Springs (at)	Apr-Sept	1630	87	2565	1877
		Apr-July	1370	87	2090	1572
YELLOWSTONE RIVER						
1925	Livingston (near)	Apr-Sept	1740	82	2982	2127
		Apr-July	1450	82	2442	1770
SHIELDS RIVER						
1935	Clyde Park (at)	Apr-Sept	84.0	85	162	99.0
		Apr-July	78.0	85	145	92.2
BOULDER RIVER						
2000	Big Timber (at)	Apr-Sept	255	74		343
		Apr-July	238	74		321
STILLWATER RIVER						
2050	Absarokee (near)(25)	Apr-Sept	420	76		552
		Apr-July	354	76		465
CLARKS FORK RIVER						
2075	Chance (at)	Apr-Sept	500	86	763	583
		Apr-July	452	86	668	528
CLARKS FORK RIVER						
2085	Edgar (at)	Apr-Sept	521	86	809	609
		Apr-July	460	86	683	538
ROCK CREEK						
2095	Red Lodge (near)	Apr-Sept	78.0	75	140	103
		Apr-July	59.5	75	107	79.6
YELLOWSTONE RIVER						
2145	Billings (at)	Apr-Sept	2980	76	5544	3913
		Apr-July	2560	76	4555	3362
BIG HORN RIVER						
2870	St. Xavier (near)(26)	Apr-Sept	870	52		1677
		Apr-July	840	53		1568
YELLOWSTONE RIVER						
3090	Miles City (at)(27)	Apr-Sept	3700	64	9053	5778
		Apr-July	3250	64		5080
YELLOWSTONE RIVER						
3295	Sidney (near)(27)	Apr-Sept	3450	59		5850
		Apr-July	3100	59		5230

(25) Adjusted for storage in Mystic Lake.

(26) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake and Yellowtail Reservoirs.

(27) Adjusted for storage in Buffalo Bill, Boysen and Yellowtail Reservoirs.

SNOW SURVEY DATA

AS OF APRIL 1, 1966

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE

COLUMBIA RIVER BASIN

KOOTENAI RIVER

15B11	Baree Creek	5500	3/31	102	45.0	48.1	50.5
15B16	Baree Midway	4600	3/31	86	35.0	-	-
15B15	Baree Trail	3800	3/31	28	9.6	10.6	-
14A04	Brush Creek	5000	3/29	38	12.8	13.9	14.3*
BC 10	Fernie	3500	3/30	25	8.7	13.1	9.5
BC 12A	Field	4200	3/31	16	4.6	8.3	5.4
BC 11	Glacier	4100	3/28	76	30.4	25.8	27.6
14A11	Graves Creek	4300	3/30	43	17.4	21.6	-
BC 43	Gray Creek	5100	3/28	58	20.3	19.9	19.7
BC 33	Kicking Horse	5400	3/30	43	13.6	15.3	14.8
BC 20B	Kimberley	3800	3/30	21	6.9	10.6	7.7
BC 32	Marble Canyon	5000	3/31	43	13.1	14.2	13.8
BC 10B	Morrissey Ridge	6100				35.5	-
BC 10A	New Fernie	4100	3/30	42	16.1	20.1	15.4*
15A01	Red Mountain	6000	3/31	51	20.0	22.0	21.4
BC 8A	Sinclair Pass	4500	4/1	21	5.3	4.6	5.4
BC 20A	Sullivan Mine	5100	3/31	38	13.7	15.6	15.6
BC 41	Upper Elk River	4400	3/28	18	6.5	9.7	8.2
14A07	Weasel Divide	5450	3/30	74	31.2	40.0	34.1

FLATHEAD RIVER

14B03	Bassoo Peak	5150	3/28	36	13.2	12.6	13.4*
13A11	Beaver Lake	5900	3/28	57	21.6	30.9	-
13B03	Big Creek	6750	3/31	86	37.0	51.6	46.4
13A17	Camp Misery	6400	3/29	100	40.6	61.0	43.0*
13A02	Desert Mountain	5600	3/28	40	14.8	21.8	16.9
13B04	Fatty Creek	5500	3/31	51	20.3	25.6	21.7*
14A09	Griffin Creek Divide	5150	3/30	30	9.9	13.2	14.3*
13B12	Gunsight Lake	6300	3/28	91	38.9	50.9	-
14A03	Hell Roaring Divide	5770	3/30	68	29.2	39.5	32.3
13B13	Holbrook	4530	3/28	28	10.6	14.5	10.4*
14A06	Kishenehn	3890	3/28	23	7.6	12.0	10.4
14A05	Logan Creek	4300	3/29	23	6.8	9.5	9.5
13A05	Marias Pass	5250	3/29	46	18.3	26.8	20.1
13A16	Mineral Creek	4000	4/3	45	18.1	27.4	22.9
13B07	North Fork Jocko	6330	4/1	84	36.6	55.0	46.7
13B02	Spotted Bear Mountain	7000	3/29	37	13.4	19.9	15.5
13B01	Trinkus Lake	6100	3/29	91	39.4	54.2	44.2*
13B11	Twin Creeks	3580	3/29	31	12.8	15.9	12.1*
13B05	Upper Holland Lake	7000	3/29	76	31.0	45.0	36.3*

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

THE UNIVERSITY OF CHICAGO
LIBRARY
1000 S. EAST ASIAN BLVD.
CHICAGO, ILL. 60607

DATE		TIME		LOCATION		REMARKS	
10/15/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/16/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/17/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/18/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/19/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/20/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/21/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/22/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/23/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/24/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/25/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/26/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/27/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/28/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/29/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/30/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30
10/31/88	10:00	10:15	10:30	10:45	11:00	11:15	11:30

SNOW SURVEY DATA

AS OF APRIL 1, 1966

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE

CLARK FORK RIVER

13C13	Black Pine	7100	3/31	31	10.5	19.4	14.6*
13C13	Black Pine Pillow	7100	3/31	SP	10.9	-	-
12B10	Copper Creek	5700	3/28	37	13.2	18.8	-
12B11	Cotter Mine	6250	3/28	44	15.5	22.6	-
13B10	Coyote Hill	4200	4/1	18	5.9	13.8	11.0
13C09	El Dorado Mine	7800	3/29	46	15.4	30.2	22.6*
13C11	Fred Burr Pass	8000	4/1	50	18.2	36.2	29.0*
13C10	Gold Creek Lake	7200	3/29	37	12.4	22.3	17.0*
14C10	Heart Lake Trail	4800	3/31	56	23.4	24.9	-
15C01	Hoodoo Creek	5900	3/31	104	42.6	55.6	53.4
13C04	Intergaard	6450	4/1	19	5.6	10.6	8.5*
15B02	Lookout	5250	3/31	87	34.3	41.0	40.5
13C21	Lubrecht Forest No. 3	5450	4/3	17	5.0	10.2	8.2*
13C22	Lubrecht Forest No. 4	4650	4/3	3	0.8	4.6	3.5*
13C08	Lubrecht Forest No. 6	4040	4/3	2	0.6	6.5	3.5*
13C12	Red Lion	7100	4/1	34	11.4	24.1	17.5*
13C03	Skalkaho Summit	7260	3/31	56	20.4	35.7	27.4
13C02	Slide Rock Mountain	7100	3/30	38	13.2	20.8	16.0
13C05	Southern Cross	6500	4/1	14	4.8	9.2	7.0*
13C18	Spring Gulch	6000	4/2	24	8.7	17.2	12.5*
13C07	Storm Lake	7780	4/1	31	9.8	20.0	15.5
13C06	Stuart Mill	6500	4/1	15	4.7	8.2	7.5*
13C01	Stuart Mountain	7400	4/3	69	28.0	37.4	32.6
14B01	TV Mountain	6800	3/29	48	17.0	23.2	18.7*

BITTERROOT RIVER

13C16	Ambrose	6480	3/29	38	12.8	17.6	14.3*
13D01	East Fork R. S.	5400	3/28	15	5.4	8.4	7.7
13D02	Gibbons Pass	7100	3/31	43	15.4	30.5	25.0
14D03	Kit Carson	5020	3/28	19	6.6	12.6	9.0
14C05	Lolo Pass	5230	3/28	68	27.5	37.9	36.4*
14C07	Lost Horse	5940	4/1	58	22.8	38.4	35.6*
13D16	Moose Creek	6200	3/28	32	10.4	24.6	17.1
14D02	Nez Perce Camp	5680	3/28	33	10.5	20.3	15.8
14D01	Nez Perce Pass	6570	3/28	37	13.1	23.3	18.3
13D22	Saddle Mountain	7940	3/28	53	18.4	32.6	-
14C04	Savage Pass	6600	3/29	65	25.9	32.1	30.5*
14C08	Twin Lakes	6510	4/1	76	30.8	54.6	46.7*

SP - Snow Pillow Observation - Water Content only.

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

1. Introduction

2. Methodology

3. Results

4. Discussion

5. Conclusion

SNOW SURVEY DATA

AS OF APRIL 1, 1966

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE

MISSOURI RIVER BASIN

BEAVERHEAD RIVER

13D10	Bloody Dick	7600	3/29	25	7.2	16.6	11.7
11E11	Blue Ledge Mine	6700	3/29	36	11.7	18.0	16.7
12E03	Camp Creek	6800	3/31	21	6.7	12.7	10.4
12D04	Carter Creek	7400	3/30	17	4.2	7.4	-
13E22	Dad Creek Lake	8400	3/28	37	10.3	20.4	-
13D15	Elk Horn Springs	7800	3/31	24	6.6	15.2	10.4
13D09	Gold Stone	8100	3/29	33	10.1	21.2	15.3
11E12	Kilgore	6200	3/29	23	6.8	10.9	10.0
11E04	Lakeview Canyon	6930	3/30	37	19.8	19.4	10.8
11E03	Lakeview Ridge	7400	3/30	31	8.4	17.0	9.7
13E01	Lemhi Pass	7480	3/28	20	5.6	15.3	9.2
13E02	Trail Creek	7090	3/28	22	5.6	14.2	8.8
12E01	White Pine Ridge	8850	4/1	9	2.3	6.7	5.9

RUBY RIVER

11D08	Clover Meadow	8600	4/1	42	12.9	22.4	-
12E07	Divide	7900	4/1	28	7.6	15.7	-
12E06	Notch	8500	4/1	42	12.7	17.7	-

BIG HOLE RIVER

13D20	Abundance Lake	8800	4/1	43	14.1	26.7	-
13D19	Darkhorse Lake	8600	4/2	49	18.6	36.4	-
13D21	Foolhen	8280	4/1	36	10.9	23.1	-
13D08	Jahnke Creek	7340	3/29	19	5.2	13.2	11.2

JEFFERSON RIVER

12C07	Berry Meadow	7300	4/1	18	5.8	9.5	7.8*
12C09	Copper Mountain	7700	3/29	32	9.0	New Course	
12C06	Picnic Grounds	6500	4/1	10	2.4	5.2	4.8*
12D01	Pipestone Pass	7200	3/30	17	4.6	6.2	6.2

MADISON RIVER

11E09	Big Springs	6500	3/30	44	16.8	26.3	22.6
11D07	Call Road	8050	4/1	30	8.4	13.9	-
11D12	Four Mile	6900	3/31	19	5.8	11.2	-
11E25	Freezeout Lake	7200	3/23	31	7.1	14.6	-
11E26	Freezeout Mountain	8250	3/23	52	14.2	24.8	-
11E05	Hebgen Dam	6550	3/30	24	7.3	15.2	12.2
11E10	Island Park	6315	3/30	34	11.5	20.8	17.6
11D05	Jack Creek	7500	3/30	12	4.0	7.0	6.9*

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF APRIL 1, 1966

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE

MADISON RIVER (continued)

11E22	Lake Creek	6100	3/23	26	6.2	10.3	-
11D11	Lower Twin	7900	3/31	46	16.2	28.8	-
11E23	Meridian Creek	7000	3/23	32	6.5	15.2	-
10E02	Norris Basin	7500	3/31	25	6.9	14.6	9.9*
11D03	North Meadow	7500	3/31	22	6.2	13.7	9.4*
11E21	Potomageton Park	7150	3/30	33	11.4	18.5	-
11E20	Sentinel Creek	8300	3/30	53	18.2	31.7	-
11E24	Tepee Creek	8000	3/23	42	10.0	22.7	-
11E27	Upper West Fork	8750	3/22	52	14.4	New Course	
11E08	Valley View	6500	3/30	39	13.0	25.9	16.4
11E07	West Yellowstone	6700	3/30	26	7.9	14.8	11.7

GALLATIN RIVER

10D14	Arch Falls	7350	4/4	33	9.3	16.0	12.1*
11D09	Bear Basin	8150	4/2	43	14.3	25.8	20.4*
10D15	Bridger Bowl Pillow	7250	3/30	SP	21.8	29.7	-
10D04	Devil's Slide	8100	4/4	55	16.4	29.8	22.3
10D03	Hood Meadow	6600	4/4	22	6.2	13.5	10.0
10D13	Lick Creek Pillow	6860	4/1	SP	7.0	14.8	-
11D10	Little Park	7400	4/2	36	10.7	19.9	14.8*
10D01	New World	6700	3/25	34	9.0	13.8	10.8
10D16	Shower Falls Pillow	8100	4/1	SP	20.3	-	-
11E06	Twenty-One Mile	7150	3/29	43	13.9	27.2	18.2

MISSOURI RIVER (Main Stem)

11C01	Boulder Mountain	7950	3/29	47	14.7	20.8	15.5*
12C05	Chessman Reservoir	6200	3/31	4	1.2	6.1	4.9
10C09	Deadman Creek	6450	3/31	24	7.0	-	-
10C07	Elk Peak	8000	3/30	43	13.7	23.0	15.8*
10C02	Grasshopper	7000	3/30	16	3.5	6.7	5.7
10C01	Kings Hill	7500	3/29	34	10.1	17.0	13.6
9A01	Rocky Boy	5200	3/28	11	3.3	7.1	4.3
12C01	Stemple Pass	6600	3/28	30	8.3	13.8	11.0
12C02	Ten Mile Lower	6600	3/30	13	3.4	10.5	7.2
13C03	Ten Mile Middle	6800	3/30	25	7.0	15.1	11.2
12C04	Ten Mile Upper	8000	3/30	30	9.3	20.6	14.3

SUN-TETON-MARIAS RIVERS

13A15	Badger Pass	6900	3/28	86	34.2	44.5	-
12B06	Cabin Creek	5200	3/28	20	7.4	12.4	7.0*
12B09	Five-Bull	5700	3/29	20	6.3	10.0	7.1*
12A01	Freight Creek	6000	3/28	43	15.4	24.2	17.0
12B07	Goat Mountain	7000	3/31	29	9.1	16.2	12.3
12B01	West Fork	6000	3/28	32	11.0	24.4	16.9*
12B04	Wrong Creek	5700	3/28	40	15.6	21.8	15.8*
12B03	Wrong Ridge	6800	3/28	51	19.9	29.1	22.2*

SP - Snow Pillow Observation - Water Content only.

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

SNOW SURVEY DATA

AS OF APRIL 1, 1966

(Inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE

JUDITH RIVER

9C02	Avalanche	7100	4/1	45	16.3	New Course	
9C01	Crystal Lake	6100	4/1	21	7.2	16.1	12.2
9C03	Rock Creek	5600	4/1	14	5.1	New Course	
10C06	Spur Park	8000	3/31	48	16.4	27.5	19.2*

SASKATCHEWAN (BOW RIVER)

ALB. 1	Bow River	5100	3/28	30	8.4	11.2	9.2
ALB. 2	North Course	5400	3/28	30	7.6	10.2	9.1
ALB. 5	Lake Louise	5800	3/29	33	10.3	13.3	10.9
ALB. 6	Mirror Lake	6600	3/29	37	10.8	14.9	13.1
ALB. 8	Misc. Lake Louise	5700	3/29	34	8.9	12.7	11.7
ALB. 10	Mount Eisenhower	5000	3/28	21	5.0	5.9	-

ST. MARY RIVER

13A18	Hudson Bay Divide	5800	3/30	46	15.9	23.4	-
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UPPER YELLOWSTONE RIVER

10C05	Bald Ridge	7500	3/30	31	10.0	16.6	11.7*
9D01	Camp Senia	7890	3/25	26	4.4	9.6	6.3
10E03	Canyon	7750	3/29	41	13.0	24.4	16.3
9D07	Cooke Guard Station	8150	4/1	41	13.3	-	-
10D05	Crevice Mountain	8400	3/30	23	6.2	11.7	9.5
10E06	East Entrance	7000	3/30	23	5.0	10.2	11.3*
9D06	Fisher Creek	9100	4/1	82	33.6	-	-
9D05	Grizzly Peak	8400	3/31	38	12.0	20.6	15.7*
10D06	Independence	8000	3/28	40	13.1	24.3	19.2*
10E04	Lake Camp	7850	3/31	28	6.2	15.0	11.1
9E01	Lodgepole	8200	3/30	27	7.3	12.1	11.8*
10E01	Lupine Creek	7300	3/30	28	7.8	13.6	11.2
10D12	Monument Peak	9000	3/28	56	19.3	34.2	23.0*
10D07	Northeast Entrance	7400	4/1	16	4.6	13.5	9.3
10C03	Porcupine R.S.	6500	3/30	22	6.3	10.4	7.7
10D10	Sacajawea	6550	3/31	33	11.8	18.4	13.0*
10C08	South Fork Shields	8100	3/30	59	21.2	30.5	-
10E05	Sylvan Pass	7100	3/30	36	10.0	16.3	14.9
10E07	Thumb Divide	7900	3/29	59	21.1	32.1	24.2
9D04	Timberline Creek	8850	3/25	47	11.4	21.6	14.1*

NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). *ADJUSTED AVERAGE

Item	Quantity	Unit	Price	Total
1. Cement	100	kg	0.15	15.00
2. Sand	200	kg	0.05	10.00
3. Gravel	300	kg	0.08	24.00
4. Water	100	liters	0.02	2.00
5. Labor	10	hours	1.00	10.00
6. Transport	1	trip	5.00	5.00
7. Miscellaneous	1	unit	1.00	1.00
Total				77.00

SOIL MOISTURE DATA

AS OF APRIL 1, 1966

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE

COLUMBIA RIVER BASIN

Kootenai

15B15M	Baree Trail	3800	48	7.5	3/31	7.6	6.2	-
14A10M	Murphy Lake R.S.	3000	48	22.6	4/1	22.2	22.3	-
15A02M	Raven R.S.	3050	48	23.0	4/1	22.2	21.0	-

Flathead

13A02M	Desert Mountain	5600	54	8.4	3/28	7.4	7.6	7.4
13A05M	Marias Pass	5250	54	6.5	4/3	5.8	5.7	5.4

Clark Fork

13C13M	Black Pine	7100	48	10.0	3/31	5.9	-	-
13C15M	Georgetown Lake	6450	48	9.0	4/1	3.6	3.2	2.9
13B19M	Seeley Lake R.S.	4030	48	11.9	4/4	12.4	10.0	-
13C03M	Skalkaho Summit	7260	48	10.8	3/31	10.0	8.9	-

Bitterroot

13D18M	Gibbons Pass	7100	48	7.1	3/28	5.0	5.4	5.6
14C05M	Lolo Pass	5250	48	10.6	4/1	6.2	7.2	-

MISSOURI RIVER BASIN

Beaverhead

11E13M	Lakeview	6700	48	15.3			13.4	10.3
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Madison

10D04M	Red Bluff	4800	40	4.7	4/1	2.3	2.3	2.5
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Gallatin

10D15M	Bridger Bowl	7250	48	15.8	3/31	16.7	-	-
11D02M	College Site	4856	54	14.5	4/1	13.8	10.4	11.2
10D13M	Lick Creek	6860	48	18.8	4/1	14.8	-	-
11E06M	Twenty-One Mile	7150	48	10.0	3/28	3.0	1.6	-

Missouri Main Stem

10C01M	Kings Hill	7420	48	11.8	3/31	8.8	8.2	-
12C08M	Stemple Pass	6230	48	5.9	3/31	5.2	4.2	-

Yellowstone

10D11M	Battle Ridge	6020	48	17.6	3/31	14.8	15.4	13.4
10D07M	Northeast Entrance	7350	48	9.4	4/1	7.4	5.8	6.9

**AVERAGE FOR PERIOD OF RECORD

RESERVOIR STORAGE DATA

AS OF MARCH 31, 1966

(1000 Acre Feet)

		USEABLE STORAGE				
BASIN	RESERVOIR	USEABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE	
COLUMBIA RIVER BASIN						
Flathead	Hungry Horse	3,428.0	2,214.0	1,567.0	2,244.4**	
	Flathead Lake	1,791.0	650.4	958.1	690.8	
	Camas (Sum of 4)	45.2	31.0	22.0	33.8	
	Mission Valley (Sum of 8)	100.3	63.6	37.7	37.2	
Clark Fork	Georgetown Lake	31.0	24.0	23.9	21.8	
	Noxon Rapids	334.6	189.0	150.4	-	
Bitterroot	Como	34.9	16.2	17.2	13.4	
	Painted Rocks	31.7	14.5	-	14.1**	
MISSOURI RIVER BASIN						
Beaverhead	Clark Canyon	328.9	156.3	85.7	-	
	Lima	84.0	47.3	46.3	27.3	
Ruby	Ruby	38.8		-	26.1**	
Madison	Hebgen Lake	377.5	222.3	224.4	179.1	
	Ennis Lake	41.0	39.2	14.4	36.4	
Gallatin	Middle Creek	8.0	2.4	4.0	3.9**	
Missouri	Canyon Ferry	2,043.0	1,506.0	1,643.0	1,529.0**	
	Hauser & Helena	61.9	60.7	57.9	44.6	
	Lake Helena	10.4	10.0	9.0	5.6	
	Holter Lake	81.9	80.0	15.0	51.7	
	Smith River	10.7		8.8	6.5**	
	Ackley Lake	5.8		-	3.5	
	Durand	7.0		6.8	4.9	
	Martinsdale	23.1		7.3	8.7	
	Deadman's Basin	72.2		52.7	41.6**	
	Fort Peck	19,410.0	16,830.0	15,250.0	10,875.4	
	Sun	Gibson	105.0	52.6	49.8	60.6
		Willow Creek	32.3	25.2	16.1	21.0
		Pishkun	32.0	18.8	17.1	18.2
	Marias	Lower Two Medicine			-	0.0
Four Horns		19.2	12.0	13.1	10.6	
Swift				-	23.9	
Lake Frances		112.0	93.4	84.7	92.8	
Milk	Tiber	1,347.0	724.7	712.9	647.4**	
	Fresno	127.2	119.9	83.8	81.5	
	Nelson	66.8	47.9	33.9	34.9	
Yellowstone	Lake Sherburne	66.1	15.4	18.8	24.4	
	Mystic Lake	20.8	6.6	4.8	4.8	
	Tongue River	68.0		-	20.7	
Big Horn	Cooney	27.5	22.0	14.8	13.5**	
	Boysen	700.3	324.6	241.2	184.0	
	Buffalo Bill	373.1	262.5	110.9	131.6	
	Bull Lake	151.7	95.6	76.9	56.8	
	Yellowtail	1,409.0	305.8	-	-	

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NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD). **AVERAGE FOR PERIOD OF RECORD



Agencies Cooperating in Collecting Data Contained in this Bulletin

U. S. Forest Service
Region 1, Missoula, Montana

U. S. Geological Survey
Helena, Montana

U. S. Army Corps of Engineers
Portland, Oregon
Seattle, Washington
Omaha, Nebraska

U. S. Indian Irrigation Service
St. Ignatius, Montana

U. S. Weather Bureau
Helena, Montana

U. S. Bureau of Sports Fisheries
and Wildlife
Red Rock Lakes Refuge
Monida, Montana

U. S. Bureau of Reclamation
Billings, Montana
Boise, Idaho

U. S. Soil Conservation Service
Montana, Wyoming, Idaho

Soil and Water Conservation Districts
Montana Counties

U. S. Bonneville Power Administration
Portland, Oregon

U. S. National Park Service
Yellowstone National Park
Glacier National Park

Montana Power Company
Butte, Montana

State Water Conservation Board
Helena, Montana

North Montana Branch Station
Agricultural Experiment Station
Havre, Montana

Montana State University
Agricultural Experiment Station
Bozeman, Montana

University of Montana
School of Forestry
Missoula, Montana

Johnson Flying Service, Inc.
Missoula, Montana

Water Rights Branch, Dept. of
Lands and Forests
Victoria, British Columbia

Department of Northern Affairs
and National Resources
Calgary, Alberta

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

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with the Snow Survey"*